

COMPLETE LISTING OF CLAIMS, INCORPORATING AMENDMENTS  
IN RESPONSE TO THE OFFICE ACTION DATED June 17, 2004  
FOR SERIAL NUMBER 10/685,214

1. (currently amended) A refractory comprising: a. ~~20-80 wt. % of a metal phosphate~~; b. ~~15-60 wt. % of a metal oxide~~; c. ~~2-20 wt. % of tricalcium phosphate  $\text{KH}_2\text{PO}_4$ , a metal oxide and a calcium containing compound, wherein the wt. % ratio between  $\text{KH}_2\text{PO}_4$  and the metal oxide is between 2:0.5 and 1:1.~~
2. (currently amended) A refractory as described in claim 1, wherein the ~~metal phosphate is an alkali metal or alkali metal earth metal phosphate~~ calcium containing compound is selected from the group consisting of:  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ ,  $\text{Ca}_3(\text{PO}_4)_2$ ,  $\text{Ca SiO}_3$  and combinations thereof.
3. (currently amended) The refractory as recited in claim 1 further comprising a component selected from the group consisting of calcium silicate and silicon dioxide, wherein the metal oxide is selected from the group consisting of  $\text{MgO}$ ,  $\text{Fe}_2\text{O}_3$ ,  $\text{Fe}_2\text{O}_4$  and combinations thereof.
4. (currently amended) The refractory as recited in claim 1 further comprising calcium silicate, wherein the calcium silicate is present at between 0.5-15 wt. % of the refractory composition. the metal oxide is  $\text{MgO}$ .
5. (original) The refractory as recited in claim 1 further comprising silicon dioxide, wherein the silicon dioxide is present at between 0.5-15 wt. % of the refractory composition.
6. (currently amended) The refractory as recited in claim 1 wherein the refractory is preferably between 40 and 65 wt. %  $\text{KH}_2\text{PO}_4$  metal phosphate.
7. (currently amended) The refractory as recited in claim 1 wherein the refractory is preferably between 25 and 50 wt. % metal oxide, further comprising a filler or mixture of fillers.
8. (currently amended) The refractory as recited in claim 1 wherein the refractory is preferably between 4 and 15 wt. % tricalcium phosphate, wherein the refractory composition is mixed with up to 20 wt. % water or aqueous solution to form an activated slurry.

9. (currently amended) The refractory as recited in claim 1 wherein the wt. % ratio between metal phosphate and metal oxide is between 2:0.5 and 1:1. the calcium containing compound is  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$

10. (original) The refractory as recited in claim 1 wherein the refractory composition is mixed with up to 2-30 wt. % water to form an activated slurry.

11. (original) The refractory as recited in claim 1 further comprising a setting retarder.

12. (currently amended) A refractory comprising: a. 20-80 wt. % of a potassium phosphate; b. 15-60 wt. % of a MgO; c. 2-20 wt. % of tricalcium phosphate. The refractory as recited in claim 1, wherein the calcium containing compound is selected from the group consisting of  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ ,  $\text{CaSiO}_3$  and combinations thereof.

13. (currently amended) The refractory as recited in claim 1 wherein the calcium containing compound is tricalcium phosphate. refractory is preferably between 40 and 65 wt. % potassium phosphate.

14. (currently amended) The refractory as recited in claim 1 wherein the refractory is preferably between 25 and 50 wt. % MgO.

15. (currently amended) The refractory as recited in claim 1 wherein the refractory is preferably between 4 and 15 wt. % tricalcium phosphate. the wt. % ratio between  $\text{KH}_2\text{PO}_4$  metal phosphate and metal oxide is between 1:0.5 and 1:1

16. (currently amended) The refractory as recited in claim 1 wherein the calcium containing compound is between 0.5-25 weight percent refractory composition wherein the refractory composition is mixed with up to 20 wt. % water to form an activated slurry.

17. (currently amended) The refractory as described in claim 1, wherein the metal phosphate is mono potassium phosphate. further comprising a filler selected from the group consisting of: mullite, alumina, sand, clay, volcanic glasses, kyanite, bauxite, aluminum oxide, silicon dioxide, chrome oxide, iron oxide, microsilicates and mixtures thereof.

18. (currently amended) ~~A refractory comprising: a. 20-80 wt. % of a metal phosphate; b. 15-60 wt. % of a metal hydroxide c. 2-20 wt. % of tricalcium phosphate. A refractory comprising an alkali metal phosphate, a metal oxide or hydroxide, and a calcium containing compound selected from the group consisting of  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ ,  $\text{Ca}_3(\text{PO}_4)_2$ ,  $\text{Ca SiO}_3$  and combinations thereof.~~

19. (currently amended) The refractory as described in claim 18, ~~wherein the metal phosphate is mono-potassium phosphate wherein the refractory composition is mixed with up to 30 wt. % water or aqueous solution to form an activated slurry.~~

20. (original) The refractory as describe in claim 18, wherein the metal hydroxide is selected from a group consisting of:  $\text{Al(OH)}_{\text{sub.}3}$  and  $\text{Zr(OH)}_{\text{sub.}4}$ .